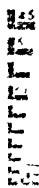




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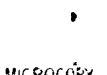
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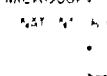
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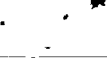
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## ABSTRACT

This bibliography surveys the literature in the developing field of forecasting, which incorporates policy-formation, planning, decision-making, and the policy sciences in general. Entries are organized into five separate sections. The first section, Alternative Futures, surveys the general literature on the future, including many historical references. The second section, Policy-Making, includes some of the best introductions to how futures-inputs might be incorporated into the policy-making process. Section 3, Planning, covers both the academically oriented and new, systems-oriented approaches to urban planning. The fourth, Forecasting Techniques, covers many of the methodological issues involved in forecasting and futures-planning. The final section, Selected Forecasting Techniques, is a partial listing of techniques that might prove useful for urban planning and management purposes. Within each section, citations are listed alphabetically by author's name. (Author/JG)

January 1972

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## INTEGRATIVE FORECASTING: Literature Survey

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INTEGRATIVE FORECASTING:  
LITERATURE SURVEY

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This bibliography surveys the literature in the developing area of "forecasting"--incorporating policy formation, planning, decision-making and, the "policy sciences," in general. The term, "integrative forecasting," was coined by Erich Jantsch, who uses the term to denote approaches to forecasting (policy formation, planning and decision-making) which cut across many dimensions, in particular social, economic, political, technological, psychological, and anthropological. This bibliography reflects much of the same spirit as it attempts to review a very diverse literature on the "future."

The bibliography is organized into five sections: ALTERNATIVE FUTURES, POLICY-MAKING, PLANNING, FORECASTING TECHNIQUES, AND SELECTED FORECASTING TECHNIQUES. Since many of the references fall into several, if not all, of these categories, many of the entries were somewhat arbitrarily placed.

The first section, ALTERNATIVE FUTURES, surveys the general literature written on the future, including many historical references. Required readings for any interested in historical forecasts are: ANTICIPATIONS OF THE REACTION OF MECHANICAL AND SCIENTIFIC PROGRESS UPON HUMAN LIFE AND THOUGHT (H.G. Wells, 1902); THE NEXT HUNDRED YEARS (C.C. Furnas, 1936); TECHNOLOGICAL TRENDS AND NATIONAL POLICY (National Resources Committee, 1937); and RECENT SOCIAL TRENDS IN THE UNITED STATES (President's Research Committee on Social Trends, 1933). More recent "classics" would include: THE FORESEEABLE FUTURE (Sir George Thompson, 1955); THE NEXT HUNDRED YEARS (Harrison Brown, James Bonner, and John Weir, 1957); INVENTING THE FUTURE (Dennis Gabor, 1964); and PROFILES OF THE FUTURE (Arthur C. Clarke, 1963). Among the best of the current crop of futures-books are: THE YEAR 2000 (Herman Kahn and Anthony J. Wiener, 1967); THE FUTURE OF THE FUTURE (John McHale, 1969); and FUTURE SHOCK (Alvin Toffler, 1970).

Some of the best introductions to how futures-inputs might be incorporated into the POLICY-MAKING process are found in the second section. Among the best, although at opposite ends of the philosophical pole, are THE INTELLIGENCE OF DEMOCRACY (Charles E. Lindblom, 1965)--advocating the "disjointed incrementalism" approach--

and PUBLIC POLICY-MAKING REEXAMINED (Yehezkel Dror, 1968)-- advocating a normative, systems view of policy-making. Excellent frameworks for policy-making can also be found in the works of Sir Geoffrey Vickers: THE ART OF JUDGEMENT (1965), TOWARD A SOCIOLOGY OF MANAGEMENT (1967), and VALUE SYSTEMS AND SOCIAL PROCESS (1968). An informative set of case studies of policy-making is contained in THE STUDY OF POLICY FORMATION (Raymond A. Bauer and Kenneth J. Gergen, 1968).

The third section on PLANNING covers both innovative approaches to urban planning, written largely by academician/practitioners, and to a new, "futures-creative," normative, systems-oriented type of planning represented by writers like Ozbekhan, Churchman, Boulding, Vickers, Gross, Beer, Michael and Jantsch. The best of the first group are: THE CITY PLANNING PROCESS (Alan Altshuler, 1965); the many contributions of John Friedmann, but particularly his article, "The future of comprehensive urban planning: a critique" (1971); CITY POLITICS AND PLANNING (Francine F. Rabinovitz, 1969); PEOPLE AND PLANS (Herbert J. Gans, 1968); and the many articles of Melvin M. Webber, particularly, "Planning in an environment of change" (1969). A thorough history of the city planning movement in the United States can be found in: AMERICAN CITY PLANNING SINCE 1890 (Mel Scott, 1969).

Of the second group, the urban planner should be familiar with the work represented in the following books: C. West Churchman's CHALLENGE TO REASON (1968) and the DESIGN OF INQUIRING SYSTEMS (1970); Hasan Ozbekhan's book-length manuscript, "Toward a general theory of planning" (1969); Geoffrey Vicker's VALUE SYSTEMS AND SOCIAL PROCESS (1968) and FREEDOM IN A ROCKING BOAT (published in England in 1970, but not yet available in the U.S.); Bertram Gross' long paper, "Planning in an era of social revolution" (1971); THE UNPREPARED SOCIETY (Donald N. Michael, 1968); DECISION & CONTROL (Stafford Beer, 1966); and PERSPECTIVES OF PLANNING (Erich Jantsch, ed., 1969).

The fourth section, FORECASTING TECHNIQUES, covers many of the methodological issues involved in forecasting and futures-planning. The best single source for covering a wide range of forecasting techniques, although now out-of-date (and having the serious short-coming of being essentially a contextless dictionary of techniques), is TECHNOLOGICAL FORECASTING IN PERSPECTIVE (Erich Jantsch, 1967). A more recent review of techniques is TECHNOLOGICAL FORECASTING AND LONG-RANGE PLANNING (Robert U. Ayres, 1969). An insightful paper on the methodology of forecasting is "The technology of forecasting and the forecasting of technology" (Marvin Adelson, 1968). Others to be read first are: "On the epistemology of the inexact sciences" (Olaf Helmer and Nicholas Rescher, 1960); SOCIAL TECHNOLOGY (Olaf Helmer, 1966); and "Forecasting and technological forecasting" (Donald A. Schon, 1967). Useful collections of "think-pieces" can be found in TECHNOLOGICAL

FORECASTING FOR INDUSTRY AND GOVERNMENT (James R. Bright, 1968).  
and VALUES AND THE FUTURE (Kurt Baier and Nicholas Rescher, 1969).

The final section is a partial listing of SELECTED FORECASTING TECHNIQUES that might prove useful for urban planning and management purposes. The techniques include: brainstorming, contextual mapping, cross-impact matrix techniques, and Delphi (both techniques still being developed by Olaf Helmer and T.J. Gordon of the Institute for the Future); gaming techniques (particularly those being developed by Abt, Duke, Meier, House, Feldt, Gordon et al.); morphological analysis (being developed by Fritz Zwicky and A.G. Wilson); scenario-writing (pioneered by Herman Kahn); science-fiction, simulation, social indicators, systems analysis, and technology assessment.

Although it is particularly difficult to keep up-to-date with the literature in a field that has now become overloaded with information, some of the best reading can be found in the following journals: THE FUTURIST (World Future Society); FUTURES (IPC, England); TECHNO-FORECASTING AND SOCIAL CHANGE (American Elsevier); and POLICY SCIENCES (American Elsevier). Two other sources of continuous information for planning and forecasting are the publications of the RAND Corporation (Santa Monica, California; and New York City) and the Institute for the Future (Middletown, Connecticut).

Comments and suggestions for revision of this bibliography are requested. The author's present address is:

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